

SPECIAL PROCESSING

Reduced Oxygen Packaging (ROP)

There are many advantages to reduced oxygen packaging ranging from extended shelf life to portion control. However, low oxygen environments such as those created by reduced oxygen packaging, can provide conditions favorable for the growth anaerobic pathogens, including *Clostridium botulinum* and *Listeria monocytogenes*. Anaerobic refers to organisms that thrive in the absence of oxygen.

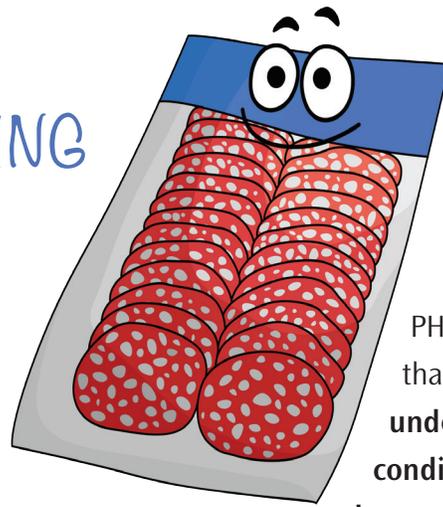
ROP rules pertain to foods that are characterized as **PHF/TCS** (Potentially Hazardous Foods Requiring Time and Temperature Control for Safety). Non PHF/TCS foods are not subject to these requirements.

ROP, in which a HACCP plan and/or variance is required includes:

Vacuum packing of foods in excess of 48 hours

Sous-vide cooking, where the food is held in the bag in excess of 48 hours

Cook/chill processes, where the food is held in the bag in excess of 48 hours



PHF/TCS foods that are held under these conditions for 48 hours or less are still subject to the following requirements:

Product labeled with time and date placed in bag

Product removed from bag within 48 hours of bag being sealed

Product stored at or below 41°

Raw fish is frozen before, during, and after bagging (recommend breaking seal when thawing)

If you want to ROP fish of any kind, it must be fully frozen before, during and after bagging.

Commercial grade equipment must be used for any form of ROP in your facility. Equipment must be fully cleanable.

Refer to the chart on the other side of this handout for specifics and approving agency.



Health Department

Environmental Health Services

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SPECIAL PROCESSING

Reduced Oxygen Packaging (ROP)

No HACCP Plan or Variance Required

Sous Vide, Cook/
chill, Vacuum
packaged
Held sealed
< 48 hours, if:

1. Product labeled with time and date placed in bag
2. Product removed from bag within 48 hours of bag being sealed
3. Product stored at or below 41°F
4. Raw fish is frozen before, during, and after bagging (recommend breaking seal when thawing)

County Approval of HACCP Plan Required

Sous Vide,
Cook/chill,
Held sealed
48-72 hours

If operator has continuous electronic monitoring for their refrigeration units, otherwise OHA variance required

Vacuum packaged Held for 2-14 days at 41°F or less

1. Raw beef, pork, poultry
2. Raw vegetables
3. Raw fish that is FROZEN before, during and after bagging (recommend breaking seal when thawing)

Vacuum packaged Held frozen

Raw beef, pork, poultry, fish and vegetables that are held frozen can be stored frozen indefinitely

State Variance Required

Sous Vide,
Cook/chill,
Held sealed
48-72 hours

If operator does NOT have continuous electronic monitoring for their refrigeration units

Vacuum packaged

All other cooked products held sealed for > 48 hours

